

Application Serial No: 10/006,734

Attorney Docket No. 82736

In reply to Office Action of 03 September 2003

REMARKS / ARGUMENTS

Claims 1-14 are currently pending in the application.

Claims 1, 2, 5-9 and 12-14 stand rejected. Claims 3, 4, 10 and 11 are objected to. No claims are allowed.

At the outset, Applicants are pleased to note that the Examiner considers the subject matter of claims 3, 4, 10, and 11 to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The Examiner rejected claims 5-7 and 12-14 under 35 U.S.C. § 112, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Examiner stated claims 5-7 and 12-14 recite an electrolyte that includes "a reaction of aluminum..." The Examiner stated that although an electrolyte might include aluminum or an alkali, it is unclear how an electrolyte can include a reaction. The Examiner stated that the claims are interpreted as reciting an electrolyte that includes the reaction product of aluminum with an alkaline solution. The Examiner stated that regarding claims 5 and 12, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention.

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The Examiner rejected claims 1, 2, 5, 6, 8, 9, 12 and 13 under 35 U.S.C. § 102(b), as being anticipated by Dow et al. (Reference U: Dow et al., "Enhanced electrochemical performance in the development of the aluminum/hydrogen peroxide semi-fuel cell." *Journal of Power Sources* (1997) 65(1-2) 207-212.). The Examiner stated that Dow et al. study the effects of additives to the electrolytes of aluminum/hydrogen peroxide semi-fuel cells to minimize the effects of parasitic reactions. Various combinations of gallium oxide and sodium stannate additives, providing gallium, oxygen and sodium components, are used. (See page 210 Table 1.) The Examiner stated that minimization of parasitic reactions will prevent the formation of an oxide layer on the surface of the aluminum anode. (page 208, first column). The Examiner states that the electrolyte disclosed by Dow et al. includes NaOH. (page 208, column2, line 23) The Examiner stated that the reaction products of aluminum with the alkaline solution will be present in the electrolyte. (page 208, lines 15-24.) The Examiner stated that the aluminum used is essentially (99.999%) pure. (page 208, first column, lines 40-41.)

The Examiner rejected claims 7 and 14 under 35 U.S.C. § 103(a), as being unpatentable over Dow et al. (Reference U: Dow et al., "Enhanced electrochemical performance in the development

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of the aluminum/hydrogen peroxide semi-fuel cell." *Journal of Power Sources* (1997) 65(1-2) 207-212.) The Examiner stated that Dow et al. discloses Applicants' invention essentially as claimed, with the exception that Dow et al. do not specifically disclose aluminum alloy anodes. The Examiner stated, however, that Dow et al. suggest investigations of new aluminum alloys based upon their investigations. The Examiner stated therefore that the use of aluminum alloys rather than pure aluminum in aluminum/hydrogen peroxide cells would have been obvious to one of ordinary skill in the art based upon the disclosure of Dow et al.

The Examiner objected to claims 3, 4, 10 and 11 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

These rejections and objections are respectfully traversed in view of these amendments and remarks.

Applicants have amended claim 1 such that the content of claim 1 now contains the subject matter of claim 3 rewritten in independent form including all of the limitations of the base claim and any intervening claims in strict compliance with the requirements of the Examiner. Having done this, Applicants have canceled claim 3. Applicants have amended claim 2 by narrowing

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the scope to sodium gallate rather than a "combination of components." Applicants have amended claim 4 to depend upon claim 1. Applicants respectfully suggest that, in light of the above-stated amendment to claim 1, claim 1 should now be allowed. Applicants further suggest that claims 2 and 4 are now also allowable through dependency on claim 1.

Applicants have amended claim 5 to address Examiner's rejection by replacing the term "a reaction of aluminum. . ." with "a reaction product of aluminum. . ." in order to establish antecedent basis for the limitation in the claim. Applicants have also amended claim 5 to address Examiner's rejection based on indefiniteness by removing the term "such as sodium hydroxide." Having done this Applicants have added new claim 15 dependant on claim 5 that includes the limitation of an alkaline solution that is sodium hydroxide. Applicants respectfully suggest that in light of these amendments, claim 5 is now in condition for allowance. Applicants further suggest that claims 6 and 7 are now also allowable through dependency on claim 5.

Applicants have amended claim 8 such that the content of claim 8 now contains the subject matter of claim 10 rewritten in independent form including all of the limitations of the base claim and any intervening claims in strict compliance with the requirements of the Examiner. Having done this, Applicants have

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canceled claim 10. Applicants have amended claim 9 by narrowing the scope to sodium gallate rather than a "combination of components." Applicants have amended claim 11 to depend upon claim 8. Applicants respectfully suggest that, in light of the above-stated amendment to claim 8, claim 8 should now be allowed. Applicants further suggest that claims 9 and 11 are now also allowable through dependency on claim 8.

Applicants have amended claim 12 to address Examiner's rejection by replacing the term "a reaction of aluminum. . ." with "a reaction product of aluminum. . ." in order to establish antecedent basis for the limitation in the claim. Applicants have also amended claim 12 to address Examiner's rejection based on indefiniteness by removing the term "such as sodium hydroxide." Having done this Applicants have added new claim 16 dependant on claim 12 that includes the limitation of an alkaline solution that is sodium hydroxide. Applicants respectfully suggest that in light of these amendments, claim 12 is now in condition for allowance. Applicants further suggest that claims 13 and 14 are now also allowable through dependency on claim 12.

Whereas all of the claims in the application are now believed to be in condition for allowance, applicants

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respectfully request re-examination and favorable
reconsideration in light of the above amendments and remarks.

The Examiner is invited to telephone Jean-Paul A. Nasser,
Attorney for Applicants, at 401-832-4736 if, in the opinion of
the Examiner, such a telephone call would serve to expedite the
prosecution of the subject patent application.

Respectfully submitted,
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26 November 2003

By



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